British Honduras
Department of Agriculture
Annual Report for 1943.

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BRITISH HONDURAS

DEPARTMENT OF AGRICULTURE

ANNUAL REPORT FOR 1943.

SECTION I.

GENERAL REVIEW OF CROPS INCLUDING EXPORTS.

Weather Conditions.

1. The weather was again abnormal, the conditions being the reverse of those experienced in 1942. The "Dry Season" was very wet and the "Wet Season" was dry. This resulted in a reduced acreage being cleared in the Dry Season as the land could not be burnt. The drought experienced in the Wet Season then greatly reduced the yields of the crops planted, especially in the north of the Colony where the maize crop was reduced by about 50%. Rice in all parts of the Colony suffered especially from this lack of rain.

General Situation.

2. Agricultural Exports continued to decline and constituted only a little over 6% of the Colony's domestic exports for 1943. The value of the agricultural exports for the last four years has been:

1940	=	$287,629	1942	=	$197,168
1941	=	$249,578	1943	=	$113,712

This further decrease for 1943 was due to:—

(1) Lack of shipping, especially affecting citrus,

(2) the hurricanes of 1941 and '42, particularly affecting coconuts and

(3) "Sigatoka" and Panama Diseases of Bananas.

The production of foodstuffs for local consumption has increased during the past two years, but the main food crop, maize, did not come up to expectation as a consequence of the drought and some had to be imported.

The appended Table I. gives details of Agricultural Produce exported during 1943. Table II shows details of Imports of Foodstuffs during the year.

Condition of the Principal Agricultural Crops.

3. *Bananas.* As already stated, exports continue to decline, now mainly on account of disease. Shipping facilities have improved and a number of small coastal vessels compete for the fruit for shipment to the U.S.A.

Exports of bananas for the past five years have been:

1939	1940	1941	1942	1943
522,578	437,432	337,499	97,412	41,801

(bunches)

The output of plantains has increased, mainly for local consumption, very few being exported.

4. *Coconuts and Copra.* The output has decreased, mainly on account of the hurricane of November 1942 which severely hit the Northern part of the Colony, the main coconut producing area. Prices were very high at the end of the year both for export, and for local consumption.

Exports during the past five years have been as follows:—

	1939	1940	1941	1942	1943
Coconuts (No)	2,846,550	2,681,509	2,444,508	1,892,153	1,268,886
Copra (lbs)	996,419	186,814	246,750	584,203	536,843
Total, as Coconuts (No)	5,536,830	3,185,900	3,110,730	3,372,300	2,879,415

Over and above this it is estimated that between 2,000,000 and 3,000,000 nuts were consumed locally, during the year, for the making of cooking oil and in soap manufacture. This domestic consumption has increased since 1939 as a result of the development of the local soap industry. The higher price obtained for the nuts at the end of 1943 has stimulated interest in this crop, partly abandoned plantations being reclaimed and some new areas planted.

5. *Citrus.* This industry continues to be the one most severely affected by the lack of shipping facilities. In order to help growers to maintain their groves in a healthy condition a subsidy of $10 per acre was granted during 1943. The greater part of the 7,000 barrels of grapefruit pulp manufactured in 1942-43 still awaits shipment. Exports of fresh fruit, totally about 5,000 cases, were made to Panama and Mexico, and it is estimated that the local market consumed about 15,000 cases. The estimated crop was between 100,000 and 150,000 cases.

6. *Cassava.* There has been an increase in the area planted for local consumption. A small amount of starch was exported to Mexico. Supplies were adequate to supply the local demand for cassava bread and starch.

7. *Sugar Cane.* On the whole, sugar cane stood up well to the drought and yields were not below normal. The output for the Norhern district, 1,483 tons of sugar, was below that for 1941 and 1942, but there was an increase in the producion of brown sugar in the Toledo District.

8. *Rice.* There was an increase in the area planted, but the drought reduced yields considerably and the amount of padi sold to the Board of Agriculture was less than in 1942. A large part of the crop was retained by the growers for their own use. The amount estimated to have been retained by the growers is over 1,000,000 lb. of padi.

Purchases by the Board of Agriculture for the past three years were as follows:

	1941	1942	1943
lbs. of Padi	588,436	266,278	186,853

The long-term British Guiana rice varieties gave better results than the local short-term rice, but as only about 10% of the area was planted with these varieties the average yield for the whole crop was low.

9. *Maize.* There was a big increase in the area planted and, although the drought reduced the yield considerably, the total output was greatly in excess of that for 1941 or 1942, but was no enough to meet all local demands. The greater part of the crop was retained by the growers, principally the Maya Indians, for their own use and for sale in small amounts directly to the public. The amount estimated as being retained by the growers was over 8,000,000 lb. Purchases of locally produced and imported corn by the Board of Agriculture for the past 4 years have been as follows: (lb.)

	1940	1941	1942	1943
Local	247,621	73,802	23,012	52,868
Imported	—	341,365	1,569,342	795,383
Total	247,621	415,167	1,592,354	848,251

10. *Ground Provisions.* Both the area planted and the crops produced have increased considerably; and the planting community has been self-supporting and has had a surplus for sale in the local market. The chief hindrance to increased production is shortage of, and the high cost of, transport.

11. *Pulses. Early types.* Green gram and Black Eye beans did well but, again, only small amounts were planted. The average local planter does not attempt to save his own seed; the result is that when the planting season arrives the area planted is limited by the amount of seed tha he is able to buy, often only at a high price.

Late types. (Red Kidney, Baby Red and Black Beans.) These did well but there was a shortage of the local Black Beans seed, as a result of hurricane damage, and supplies of Imported Red Kidney seed were limited. There were ample supplies of Guatemala Baby Red Bean, imported and locally produced, and yields were satisfactory. Many planters took advantage of the fact that the Baby Red can be planted in August and September to provide themselves with fresh seed for the November and December planting. It is hoped that in time this bean will become the principal pulse crop of the Colony and that the planters will save all their own seed from crop to crop.

The area under pigeon peas is increasing but the crop is still far from popular as a foodstuff. It is hoped, if the cultivation of this pea expands sufficiently, to install machinery for producing split peas, for which there is a ready market.

12. *Vegetables.* There has been a general increase in production and during the winter months supplies were nearly enough to satisfy the local demand. There was a distinct shortage at other times of the year.

Livestock.

13. *Cattle.* Cattle have continued to increase in numbers. Imports of cattle have also increased because of the increased demand for salted meat.

Imports for the past five years have been as follows:

	1939	1940	1941	1942	1943
For Food ..	812	151	650	755	1,628
For Breeding	—	—	189	94	42
	812	151	839	849	1,724

All of the cattle imported for food and most of the breeding animals came from the Honduras Republic.

Milk production has increased, but poor transport facilities and a definite preference for canned milk on the part of he local population limits expansion. Small amounts of cheese and butter were made, especially in the Cayo District.

14. *Pigs.* As a result of more food being available production has gone up but has not, as yet, reached the pre-hurricane and pre-locust level of 1940. The demand for pig meat has increased, in common with that for other fresh meats, on account of the shortage of imported saltmeats. Curing has increased; ham, bacon and sausages being made for the local market.

15. *Poultry.* There has been a big increase in the amount of poultry kept but the number is still below the 1940 level. Eggs were still short.

Pests and Diseases.

16. (a) *Plants.* No Locusts were repored in the Colony during the year. The last to be seen were reported from Cayo in December, 1942.

"Wee-wee" ants (*Atta cephalotes*) continue to be the main pest of all crops, especially of citrus, cassava, vegetables and yams. A shortage of "cyanogas", and its increased cost, have resuted in an increase of this pest; this is particularly true of the smaller citrus growers who, on account of a reduced income, have been unable to carry out measures on the same scale as before.

"Rusts mits" (*Eriophes oleivorus*) and "Scale" (*Lepidosophes spp.* and *Coccus spp.*) of Citrus are also on the increase, probably for the same reason.

Sigatoka Leaf Spot and Panama Disease of bananas are still prevalent. The former appears to be decreasing, but Panama Disease is said to have caused many more banana plots to be abandoned

Some Red Ring (*Aphelenchus cocophilus*) of coconuts has been reported, especially from the more poorly drained areas.

Citrus "blast" is still spreading in the wetter areas but not so rapidly as in previous years. The diggng out and burning of the diseased trees, with subsequent liming and

leaving open of the holes for some months before replanting, appears to be a satisfactory treatment.

(b) *Livestock.* Livestock continues to suffer from ticks and blood sucking flies. Most of the bigger breeders spray their animals regularly but very little spraying is done by the smaller men. "Dipping" is a process still to be adopted in this country.

Intestinal worms are common in pigs, and, to a lesser extent, in cattle and horses. Various control measures are practised, including dosing with copper-sulphate, nicotine, turpentine, castor oil and proprietory worm oils.

Deaths of cattle in the Cayo area from an unknown disease again occurred at the beginning of the year. From particulars of the symptoms which are now available it appears that this disease, which nas been recurring for some years, may be "bat rabies", a paralytic rabies of livestock which is carried by the vampire bat, *Desmodus.* Further information is being sought with a view to confirming the presence of this disease. In the meantime cattle owners are being warned that the disease is suspected of being "bat rabies" and advised to practice known control measures.

SECTION II.

WORK OF THE DEPARTMENT OF AGRICULTURE.

17. It is with deep regret that I have to record the death of the Agricultural Officer, Mr. G. D. P. Olds, who arrived in the Colony from Malaya in November 1942 and who died in March 1943. After his death, the direction of the work of the Department was carried on by the two Assistant Agricultural Officers, Messrs. R. A. Kitching and J. M. Cave. In August Mr. Cave went on leave and Mr. Kitching was appointed Acting Agricultural Officer.

Food Production Scheme.

18. As a consequence of Mr. Olds' death, the approval of the Food Production Scheme was delayed and when this was finally approved it was too late to make use of the planting season of 1943. However, it was possible to make progress with some of the work that had been planned. An agricultural Census of the Colony was made, a summary of which is attached, planting material was distributed on loan and work was started on the draining and empoldering of the San Antonio Rice Reserve in Toledo District.

NORTHERN DISTRICT.

Extension Work.

Much of this work has been combined with the gathering of details for the Agricultural Census, and a considerable amount of useful information was obtained.

Some improvement has been effected in the cultivation of ground provisions, especially by the more general adoption of ridging. The area under arrowroot and carib yams has been greatly increased.

Bean and maize seed for planting purposes was supplied on loan. In this connection both of the Agricultural Stations, at Corozal and Orange Walk, concentrated on the production of seed or planting material of various types of food crops, especially yams and sweet potatoes.

Sales of vegetable seeds were made as usual.

The use of the Berkshire boars on the Stations and of the half-bred boars in the out villages was less than usual, owing to the general decrease in the number of livestock because of shortage of foodstuffs.

The supervision of school gardens was continued.

Corozal and Orange Walk farms.

Sugar Cane. The multiplication of twelve selected varieties was continued. Trials of improved treatment of ratoons were carried out.

Maize. Trials of short term imported American seed and the local 4 month type of yellow corn gave very poor yields on account of the lack of rain during the growing period.

Pulses. Further trials of bean varieties were carried out.

Sea Island Cotton. The M.S.I. Sea Island Cotton grown from seed sent from Montserrat in December 1942 proved to be a failure, on account of the late arrival of the seed. Growth was satisfactory but the crop ripened during the rains and was spoilt. It is necessary to sow the seed before the end of October to avoid this.

Fodder Grasses. Observations show that, of the various fodder grasses grown, Para grass stands up to cutting better than any other grass under local conditions of soil and climate.

Livestock. Investigations of suitable methods of stall feeding of cattle for milk production under local conditions have been continued on a small scale.

Fewer sows than usual were sent in for service by the Berkshire boars.

STANN CREEK DISTRICT.

19. *Cassava.* Trials and Multiplication Plots were continued. In the Varietal Trials, Aipin Manzi still leads, averaging over 25,000 lb. per acre. The results obtained from the manurial trial continue to show no significant differences for the various treatments, with the complete artificial fertilizer giving slightly better yields than the others. In the "Time of Reaping" trial, 10-12 month old Aipin Manzi gave the best yields in roots and starch content.

20. *Citrus.* Manurial and Cultural Trials were continued. The remainder of the citrus was put under pasture to provide increased grazing and to reduce maintenance costs. The trees have now recovered from the locust and hurricane damage of 1941-42, but a shortage of cyanogas in 1943 caused an increase in damage from "wee-wee" ants.

21. *Pulses.* Further trials were carried out. It now appears certain that Mung Bean is the most suitable crop for early planting and the Guatemala Baby Red Bean for later planting in this District. Storage of these two crops for food or seed has been satisfactory.

22. *Ground Provisions.* Multiplication Plots of yams, sweet potatoes, cocos and dasheen were maintained and planting material distributed.

23. *Rice.* An increased area was planted with rice as a varietal and cultural trial and as a demonstration to local planters. The results obtained from the British Guiana long term varieties were satisfactory but the local short term rice gave disappointing yields, mainly on account of adverse weather conditions.

24. *Other Tree Crops.* Multiplication and Observation Plots of the following were maintained, coffee, mangoes, coconuts, Tung oil and miscellaneous fruit and economic trees.

25. *Other Crops.* Multiplication and observation plots of the following were planted, Manilla Hemp, bananas, plantains, pine-apples, soya bean, adlay, arrowroot, ginger and tumeric.

26. *Extension Work.* Demonstration Farms in the Carib Reserve and at the Industrial School were continued. Plantations and farms in all parts of the District were visited regularly by the Station staff to encourage food production and to supervise the planting material given out on loan.

27. *Livestock.* Feeding trials were continued, using cut fodder grass, coconut meal and rice bran. Stall feeding for milk production was not satisfactory, as there were many periods when coconut meal and rice bran were unobtainable and the fodder grass alone did not maintain the milk yields. Better results were obtained when the cows were let out to pasture when the concentrates were short.

TOLEDO DISTRICT.

28. *The Rice Station.* Rice varietal and cultural trials were continued and multiplication plots were planted. Cultural trials included planting under wet, semi-wet and dry conditions, and three methods of establishment, *viz*:—transplanting, broadcasting and dibbling. From results obtained so far, the British Guiana "long-term" varieties No. 79, Lead, D114 and Demerara Creole have yielded best under local conditions and are more reliable than the local "short-term" types. Also the local short term rice does not do so well when transplanted as when broadcasted or dibbled.

29. *The Rice Mill.* 180,236 lb. of padi was purchased, an increase over the 1942 figure, but below that of 1941.

28,201 lb. of seed padi was loaned to planters. The 111,578 lb. of padi milled yielded 67,700 lb. of rice (a recovery of 60%) 4,124 lb. of cracked grain, 693 lb. of quarter grain and 7,673 lb. of bran. These bye-products were in great demand as feed for livestock

30. *Extension Work.* The 5 acre Demonstration Plot on the San Antonio Reserve was continued, growing rice under "wet" conditions. Rice has now been grown for five consecutive years on this land, without ploughing, with satisfactory results. Some "wet land" species of weeds are now starting to cause trouble but it is expected that improved drainage and ploughing in the "Dry Season" will eliminate this trouble.

This 5 acre plot has now been extended under the Food Production Scheme, 50 acres having been drained and empouldered and sluice gates installed. 25 acres have been cleared and planted by the Department of Agriculture as a demonstration and it is hoped that private persons will take up the other 25 acres for rice cultivation. When this has been done it is intended to empolder and drain further areas as required. There are over 500 acres of suitable land available in this area. It is hoped to be able to obtain some of the higher land adjoining the Rice Reserve to be used for house plots, pasture, etc., by the planters growing rice on the reserve.

Visits were paid by the Officer-in-charge and his staff to all rice growing areas in the District and the Agricultural Instructor made a tour of the rice growing areas of the Colony.

Loans to Rice Growers amounted to $1,150.00 and were made to 53 persons. Loans outstanding from previous years were $732.32.

BELIZE DISTRICT.

31. *The Belize Rice Mill and Drying Kiln.* There was a decrease in the amount of produce handled. The fall in rice was attributed to the drought. There was an increase in locally grown corn. Amounts handled were as follows: (in lb.)

	Maize		*Rice*	*Beans*
	Local	Imported	Padi	Various
1943	195	797,312	5,771	3,271

The output of corn meal and grits was 44,945 lb.

The weight of rice padi milled was 78,314 lb. which produced 41,859 lb. of rice, a return of 53%.

Bye-Products were—Bran 24,742 lb. and Quarter grain 7,033 lb.

32. *Extension Work.* The Junior Agricultural Instructor visited all parts of the District encouraging food production, collecting data for the census and inspecting school gardens.

CAYO DISTRICT.

33. *The Demonstration Farm.* This was continued under a revised system of cropping. The rotation being changed to 3 years pasture and 1 year arable cropping in order to control weed growth and to conserve soil fertility. The former rotation (1) Corn and Beans, (2) Roots (3) Corn and Beans (4) Pigeon Peas, having proved unsatisfactory, certain weeds becoming uncontrollable and soil fertility deteriorating.

34. *Plant Propagation Plot.* Two acres of land were acquired near Cayo Town for a plant propagation centre. A house has been erected on the plot for the Farm Assistant and propagation of citrus, mangoes, and other fruit trees has been started for distribution in this area. Crops of "ground provisions" and pulses have also been planted to provide planting material for distribution. Ths holding will also serve as the buying centre for local produce under the Food Production Scheme.

35. *Extension Work.* The Farm Assistant visited all the agricultural areas of the District, encouraging food production and collecting data for the census. 911 lb. of Pimento and Allspice were purchased for the Board of Agriculture.

36. *Livestock.* This district is the main cattle breeding area of the Colony and the output is increasing. A half bred Berkshire Boar is kept on the plot for serving local farmers' sows.

GENERAL.

37. Twenty-six plots of land were inspected for the granting of title, nineteen being approved.

E. G. STAPLES,

Director of Agriculture.

TABLE I

Agricultural Products. Exports — 1943.

PRODUCE	Destination	Quantity	Value
Coconuts (No.)	U.S.A.	1,268,886	$44,161
	Total	1,268,886	44,161
Copra (lb.)	Colombia	184,159	10,285
	Mexico	352,684	13,115
	Total	536,843	23,400
Bananas (Bunches)	U.S.A.	41,801	14,583
	Total	41,801	14,583
Plantains (Bunches)	Nil	Nil	Nil
Grapefruit (Fresh) (Cwt)	Mexico	1,772	1,903
	Panama	2,830	11,550
	Total	4,602	13,453
Grapefruit (Pulp) (Cwt)	Nil	Nil	Nil
Grapefruit (Juice) (Cwt)	Nil	Nil	Nil
Grapefruit (Canned) (Cwt)	Nil	Nil	Nil
Oranges (Fresh) (Cwt)	Mexico	1,853	2,838
	Total	1,853	2,838
Other Agricultural Products:—			
Arrowroot, Macaroni, Starch & Sago (lb.)	Nil	Nil	
Poultry (No.)	Mexico	70	350
	Total	70	350
Eggs (Doz.)	Nil	Nil	Nil
Rum (Gals.)	Nil	Nil	Nil
Candles (lb.)	Nil	Nil	Nil
Cocoa (Raw) (lb.)	Mexico	12,768	466
	Total	12,768	466
Common Soap (lb.)	Honduras	448	35
	Mexico	20,944	1,710
	Grand Cayman	224	54
	Total	21,616	1,799
Sugar (Tons)	U.K.	224	12,443
	Honduras	1	130
	Total	225	12,573
Leather (lb.)	Jamaica	110	49
	Grand Cayman	100	40
	Total	210	89
Total Agricultural Produce			$113,712

TABLE II

Imports of Foodstuffs — 1943.

COMMODITY	From	Quantity	Value
Cattle (No.)	Honduras	42 (For Breeding)	1,988
		1,682 (Other purposes)	62,051
Butter (Cwt)	Guatemala	¾	33
	Australia	745¼	26,017
	Honduras	5	183
	San Salvador	4¼	85
	U.S.A.	¼	8
Butter Substitutes (Cwt)	Jamaica	1,588½	36,371
	U.K.	98¼	1,635
Cheese (Cwt)	Honduras	24¼	931
	U. S. A	355	13,330
	San Salvador	53¾	1,979
	Guatemala	15	821
	Cuba	32¼	862
Rice (Cwt)	U.S.A.	1	13
	Guatemala	965½	5,274
	Mexico	221	495
	San Salvador	13,311¼	84,437
	Honduras	664¼	3,663
Flour (Wheaten) (Sacks of 196 lb.)	U.S.A.	46,584½	295,269
Beans & Peas (Cwt)	San Salvador	138	759
	U.K.	11¼	119
	U.S.A.	3,651¼	38,793
	Mexico	217¼	766
	Honduras	821	5,188
	Guatemala	536¼	3,569
	Chile	3,426½	32,134
	Canada	85	1,103
Farinaceous Preparations (Cwt)	Guatemala	1¾	33
	U.S.A.	1,046¼	11,827
	U.K.	82	1,583
	Canada	13	318
Lard & Loose Substitutes (Cwt)	Canada	178½	4,090
	Jamaica	3,804¼	72,212
	U.S.A.	913	17,761
	Honduras	909½	19,675
	Cuba	26¾	390
Beef in Barrells (Cwt)	Canada	178½	4,614
	U.S.A.	276¾	6,088
Pork, (Various), in Barrels (Cwt)	U.S.A.	1,015	18,207
Milk, Condensed & Unsweetened (Cwt)	Canada	2,090¼	30,155
	U.S.A.	12,255¾	194,812

Onions (Cwt)	Mexico	231¾	1,230
	Guatemala	47¾	603
	U.S.A.	1,341	11,172
	Honduras	167½	1,853
Irish Potatoes (Cwt)	Mexico	196½	842
	Honduras	399½	3,086
	Guatemala	681½	4,286
	U.S.A.	1,475¼	8,103
	Canada	49	511
Eggs (Doz.)	Honduras	6,669	2,691
	Guatemala	6,480	1,870
Pigs (No.)	Honduras	4 (For breeding)	4
	Honduras	347 (For other purposes)	8,535
Corn (Cwt)	San Salvador	1,398¼	4,697
	Honduras	7,090¼	21,366
Milk Powder (Cwt)	Guatemala	½	11
	U.S.A.	260¼	16,185
	Canada	83	4,663
Total			$1,091,349

TABLE III

AGRICULTURAL CENSUS—BRITISH HONDURAS 1943—LIVESTOCK

District	Cattle	Pigs	Horses and Mules	Poultry	Miscellaneous
Stann Creek	639	475	92	2,204	127
Corozal	385	1,251	394	7,008	85
Orange Walk	1,358	1,211	504	7,201	—
Cayo	5,937	1,642	2,371	9,320	98
Toledo	802	4,253	70	11,972	33
Belize	1,010	723	257	6,705	20
Totals	10,131	9,555	3,688	44,410	363

Miscellaneous—Mainly Goats and Sheep.

TABLE IV

Summary of Agricultural Census, British Honduras — 1943 Crops.

DISTRICT	Holdings No.	Agricultural Population	Land Occupied	Crops (in Acres)										
			About 80% under Bush fallow	Corn	Rice	Beans	Ground Provisions	Plantains and Bananas	Coconuts	Citrus	Sugar Cane	Miscellaneous	Pasture	Total Acreage in crops and pasture
Stann Creek	461	1,844	(30—40,000 Acs)	335	242	130	447	383	1,897	1,120	25	194	1,378	6,151
Corozal	567	2,837	(40—60,000 Acs)	2,578	86	124	246	263	1,200	65	2,000	48	447	7,057
Orange Walk	334	2,500	(25—30,000 Acs)	1,557	95	51	118	81	—	—	—	—	2,600	4,502
Cayo	676	3,318	(50—60,000 Acs)	3,254	575	88	448	735	—	48	86	183	15,000	20,417
Toledo	783	4,775	(80—90,000 Acs)	2,765	1,112	111	635	1,160	271	42	291	173	2,000	8,560
Belize	600	3,041	(30—40,000 Acs)	949	505	125	406	343	300	100	100	126	2,500	5,454
Totals	3,421	18,315	(255—320000Acs)	11,438	2,615	629	2,300	2,965	3,668	1,375	2,502	724	23,925	52,141

NOTES:—Stann Creek—Ground Provisions—75% Cassava. Miscellaneous—Mostly Mangoes, Pineapples, and other fruit trees.

Corozal—These figures include Coconuts and Cane for Northern District, including Orange Walk.

Orange Walk—Pasture—Estimated at about 2 acres per head of cattle.

Cayo—Pasture—Estimated at about 2 acres per head of cattle.

Toledo—Pasture—Estimated at about 2 acres per head of cattle.

Belize—Pasture Estimated at about 2 acres per head of cattle .